

CLAIMS

- 1 1. An optical system comprising:
2 a substantially planar substrate; and
3 a waveguide channel at least a portion of which is at least partially buried in
4 said substrate, said waveguide channel having a portion exhibiting a taper in two
5 dimensions.
- 1 2. The optical system of claim 1, wherein said waveguide channel defines an
2 optical axis and lacks continuous rotational symmetry about said optical axis.
- 1 3. The optical system of claim 1, wherein said waveguide channel is elongate
2 along a light propagation path of said waveguide channel; and
3 said substrate is shaped to accommodate an optical component aligned with
4 said light propagation path.
- 1 4. The optical system of claim 1, wherein said substrate defines a locating
2 contour, said locating contour being adapted to engage an optical component such that
3 engagement of the optical component with said locating contour positions the optical
4 component for optically communicating with said waveguide channel.

1 5. The optical system of claim 1, wherein said waveguide channel is entirely
2 buried in said substrate.

1 6. The optical system of claim 1, further comprising:
2 an input transmission medium optically communicating with said waveguide
3 channel, said input transmission medium being configured to propagate light to said
4 waveguide channel; and
5 an output transmission medium optically communicating with said waveguide
6 channel, said output transmission medium being configured to propagate light from
7 said waveguide channel.

1 7. The optical system of claim 1, wherein said waveguide channel is a first
2 waveguide channel; and
3 said optical system further comprises:
4 a second waveguide channel at least a portion of which is at least partially
5 buried in said substrate, said second waveguide channel having a portion exhibiting a
6 taper in two dimensions.

1 8. The optical system of claim 7, further comprising:
2 means for propagating light between said first waveguide channel and said
3 second waveguide channel.

1 9. The optical system of claim 1, wherein said waveguide channel includes a first
2 waveguide channel portion, a second waveguide channel portion and a linking portion
3 located along a light propagation path between said first waveguide channel portion
4 and said second waveguide channel portion, said linking portion being at least
5 partially buried in said substrate, said linking portion being adapted to propagate light
6 between said first waveguide channel portion and said second waveguide channel
7 portion.

1 10. The optical system of claim 9, wherein a trench is formed through at least a
2 portion of said linking portion, said trench being adapted to receive an optical
3 component.

1 11. The optical system of claim 10, further comprising:
2 an optical component arranged at least partially within said trench, said optical
3 component being adapted to propagate light between said first waveguide channel
4 portion and said second waveguide channel portion.